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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 744,282	04 05 2001	Andreas Martinus Maria Miltenburg	0-98394US	4006

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EXAMINER

HUYNH, PHUONG N

ART UNIT	PAPER NUMBER
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1644

DATE MAILED: 09/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/744,282

Applicant(s)

MILTENBURG ET AL.

Examiner

" Neon" Phuong Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE Three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 02 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 4-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 4-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 05 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

1. Claims 4-15 are pending.
2. Applicant's election of Group VI, claims 4-15, drawn to a method of using HC gp-39 or fragment wherein the fragment is SEQ ID NO: 6 for modulating the reactivity of lymphocytes as to prevent inflammatory disease wherein the disease is rheumatoid arthritis, filed 7/2/02, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
3. Claims 4-15 are being acted upon in this Office Action.
4. The preliminary amendment filed 4/5/01 to delete "effect" and insert -- effect -- on line 20 and to insert -- , -- after "invention" on line 32 has not been entered because Applicant has not specified the page to which the line is on.
5. Claim 4 is objected to because "HP gp-39" should have been "HC gp-39".
6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: (1) The recitation of "wherein said fragments are selected from one or more of SEQ ID NO: 1 (FGRSFTLAS), SEQ ID NO: 2 (FTLASSETG), SEQ ID NO: 3 (YDDQESVKS), SEQ ID NO: 4 (FSKIASNTQ), SEQ ID NO: 5 (PTFGRSFTLASSE), SEQ ID NO: 6 (RSFTLASSETGVG), SEQ ID NO: 7 (VGYYDDQESVKSKV), and SEQ ID NO: 8 (SQRFSKIASNTQSR)" in original claim 5 and 11 and (2) the recitation of "wherein said fragments are selected from one or more of SEQ ID NO: 5 (PTFGRSFTLASSE), SEQ ID NO: 6 (RSFTLASSETGVG), SEQ ID NO: 7 (VGYYDDQESVKSKV), and SEQ ID NO: 8 (SQRFSKIASNTQSR)" in original claim 6 and 12 have no support in the specification as filed. It is suggested that Applicants amend the specification to provide proper antecedent basis for the claimed subject matter.

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7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention

8. Claims 4-15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling only for (1) a method of treating an inflammatory autoimmune disease wherein the autoimmune disease is rheumatoid arthritis by inhibiting the reactivity of lymphocytes associated with rheumatoid arthritis, comprising the step of administering a pharmaceutical composition comprising an effective amount of HC gp-39 or a fragment consisting of SEQ ID NO: 6 and a pharmaceutical acceptable carrier, wherein said lymphocytes are reactive to HC gp-39, **does not** reasonably provide enablement for (1) a method of treating *any* inflammatory autoimmune disease by "modulating" the reactivity of lymphocytes associated with said disease, comprising the steps of administering a pharmaceutical composition comprising an effective amount of *any* fragments thereof of *any* HP gp-39, and a pharmaceutically acceptable carrier, wherein said lymphocytes are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39, (2) a method of treating *any* inflammatory autoimmune disease by "modulating" the reactivity of lymphocytes associated with said disease, comprising the steps of administering a *any* pharmaceutical composition comprising an effective amount of *any* HP gp-39 or *any* fragments thereof, and a pharmaceutically acceptable carrier, wherein said lymphocytes are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39 wherein said fragments are selected from one or more of SEQ ID NO: 6 (RSFTLASSETGVG), (3) the said method wherein said fragments are selected from one or more of SEQ ID NO: 6 (RSFTLASSETGVG), (4) a method of treating *any* inflammatory autoimmune disease by "modulating" the reactivity of lymphocytes associated with said disease, comprising the steps of administering a pharmaceutical composition comprising an effective amount of *any* HP gp-39 or *any* fragments thereof, and a pharmaceutically acceptable carrier, wherein said lymphocytes are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39 wherein said autoimmune disease is rheumatoid arthritis, (5) a method for "modulating" the reactivity of lymphocytes that are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39, comprising the step of administering a pharmaceutical composition comprising an effective amount of *any* HC gp-39 or *any* fragment thereof and a pharmaceutically acceptable carrier, whereby the reactivity of said lymphocyte is

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"modulated", (6) a method for "modulating" the reactivity of lymphocytes that are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39, comprising the step of administering a pharmaceutical composition comprising an effective amount of *any* HC gp-39 or *any* fragment thereof and a pharmaceutically acceptable carrier, whereby the reactivity of said lymphocyte is "modulated" and wherein said fragments are selected from one or more of SEQ ID NO: 6 (RSFTLASSETGVG), and (7) a method mentioned above wherein said autoimmune disease is rheumatoid arthritis. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in **scope** with these claims.

Factors to be considered in determining whether undue experimentation is required to practice the claimed invention are summarized *In re Wands* (858 F2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)). The factors most relevant to this rejection are the scope of the claim, the amount of direction or guidance provided, the lack of sufficient working examples, the unpredictability in the art and the amount of experimentation required to enable one of skill in the art to practice the claimed invention. The specification disclosure is insufficient to enable one skilled in the art to practice the invention as broadly claimed without an undue amount of experimentation.

The specification discloses only a method of treating an inflammatory autoimmune collagen induced rheumatoid arthritis by nasal induction tolerance comprising the step of administering a pharmaceutical composition comprising an effective amount of HC gp39 (page 10) and a pharmaceutically acceptable carrier (page 14). The specification further discloses HC gp-39 induces the proliferation of PBMC in vitro obtained from some patient with rheumatoid arthritis (See page 15).

The specification does not teach how to make and use *any* HC gp-39 fragments thereof for treating *any* inflammatory autoimmune disease by "modulating" the reactivity of lymphocytes associated with *any* autoimmune disease such as rheumatoid arthritis. There are no guidance and in vivo working as to which "fragment" of HC gp-39 would be useful and effective for treating even rheumatoid arthritis, let alone *any* inflammatory autoimmune disease.

Ngo *et al* teach that the amino acid positions within the polypeptide/protein that can tolerate change such as conservative substitution or no substitution, addition or deletion which are critical to maintain the protein's structure/function will require guidance (see Ngo et al., 1994, The Protein Folding Problem and Tertiary Structure Prediction, pp. 492-495). There is no

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guidance as to which amino acids within the full-length amino acid sequence of HC gp-39 can be delete and that after deletion would retain the structure and function of the full length HC gp-39. In turn, can be use for treating any autoimmune disease such as rheumatoid arthritis. Further, the term "modulating" could be stimulatory and/or inhibitory, which is mutually exclusive. The specification discloses only that treating mice nasally with the full length of HC gp-39 inhibits bovine type II collagen-induced rheumatoid arthritis.

With regard to *any* inflammatory autoimmune disease, Van Noort *et al* teach autoimmune diseases can be species and model-dependent (See entire document, pages 167-168, in particular). Given the indefinite number of undisclosed inflammatory autoimmune disease, it is unpredictable which undisclosed fragments of HC gp-39 would be useful for treating any autoimmune disease. Further, other than the specific full length HC gp-39 for treatment of autoimmune rheumatoid arthritis, the specification as filed fails to provide guidance and working example as to whether treatment with the HC gp-39 is appropriate for any other autoimmune disease.

Anderton *et al* teach peptide-based immunotherapy of autoimmunity is unpredictable and peptides that inhibit autoimmune disease such as encephalomyelitis in vitro actively induce disease in vivo (See page 370, column 1, second full paragraph, bridging column 2, first paragraph, in particular). Further, Anderton *et al* teach clinical trial was suspended due to hypersensitivity reactions in a significant proportion of patients (See page 370, column 2, second paragraph, in particular).

Verheijden *et al* (PTO 1449) teach tolerance can be attained by the amount of autoantigen administered and the **route** of administration is just as important as the autoantigen such as human cartilage glycoprotein-39 (HC gp-39) itself. Verheijden *et al* teach administering a single injection of HC gp-39 in FIA to female BALB/c mice induces clinical signs of arthritis (page 1121, column 2, in particular) whereas intranasal administration of HC gp-39 before immunization completely abrogated DTH response upon challenge (See page 1122, column 2, last paragraph, in particular).

The Merck manual does not recognize the use of *any* HC gp-39 fragments thereof for treating *any* inflammatory autoimmune disease such as rheumatoid arthritis (See page 420-421, in particular).

With regard to lymphocytes are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39, the specification discloses only lymphocytes are reactive to HC gp-39, the specification does not teach antigens other than HC gp-39 which are present in

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the same tissue as HC gp-39. Myers *et al* teach autoimmune response to collagen type II in the CIA models is complex, requiring specific major histocompatibility complex (MHC) molecules, collagen type II specific T cell and B cell immune responses and their associated cytokines (See page 1862, in particular). Myers *et al* teach although the use of altered peptides in the treatment of autoimmune disease such as rheumatoid arthritis is receiving considerable attention as the evidence of their efficacy continues to grow in vitro studies as well as in animal models. However, the development of such therapeutics for human diseases relies upon significant knowledge of the autoantigen (See page 1873, second full paragraph, in particular). Given the indefinite number of undisclosed antigens other than HC gp-39, it is unpredictable which undisclosed antigens to which the lymphocytes reactive to would be useful for treating any disease. As such, it would require undue experimentation of one skilled in the art to practice the claimed invention. See page 1338, footnote 7 of Ex parte Aggarwal, 23 USPQ2d 1334 (PTO Bd. Pat App. & Inter. 1992).

In re wands, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988), the decision of the court indicates that the more unpredictable the area is, the more specific enablement is necessary. In view of the quantity of experimentation necessary, the limited working examples, the unpredictability of the art, the lack of sufficient guidance in the specification and the breadth of the claims, it would take an undue amount of experimentation for one skilled in the art to practice the claimed invention.

9. Claims 4-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The specification does not reasonably provide a **written description** of (1) a method of treating *any* inflammatory autoimmune disease by "modulating" the reactivity of lymphocytes associated with said disease, comprising the steps of administering a pharmaceutical composition comprising an effective amount of *any* fragments thereof of *any* HP gp-39, and a pharmaceutically acceptable carrier, wherein said lymphocytes are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39, (2) a method of treating *any* inflammatory autoimmune disease by "modulating" the reactivity of lymphocytes associated with said disease, comprising the steps of administering a *any* pharmaceutical composition comprising

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an effective amount of *any* HP gp-39 or *any* fragments thereof, and a pharmaceutically acceptable carrier, wherein said lymphocytes are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39 wherein said fragments are selected from one or more of SEQ ID NO: 6 (RSFTLASSETGVG), (3) the said method wherein said fragments are selected from one or more of SEQ ID NO: 6 (RSFTLASSETGVG), (4) a method of treating *any* inflammatory autoimmune disease by "modulating" the reactivity of lymphocytes associated with said disease, comprising the steps of administering a pharmaceutical composition comprising an effective amount of *any* HP gp-39 or *any* fragments thereof, and a pharmaceutically acceptable carrier, wherein said lymphocytes are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39 wherein said autoimmune disease is rheumatoid arthritis, (5) a method for "modulating" the reactivity of lymphocytes that are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39, comprising the step of administering a pharmaceutical composition comprising an effective amount of *any* HC gp-39 or *any* fragment thereof and a pharmaceutically acceptable carrier, whereby the reactivity of said lymphocyte is "modulated", (6) a method for "modulating" the reactivity of lymphocytes that are reactive to *any* antigens other than HC gp-39 which are present in the same tissue as HC gp-39, comprising the step of administering a pharmaceutical composition comprising an effective amount of *any* HC gp-39 or *any* fragment thereof and a pharmaceutically acceptable carrier, whereby the reactivity of said lymphocyte is "modulated" and wherein said fragments are selected from one or more of SEQ ID NO: 6 (RSFTLASSETGVG), and (7) a method mentioned above wherein said autoimmune disease is rheumatoid arthritis.

The specification discloses only a method of treating an inflammatory autoimmune collagen induced rheumatoid arthritis by nasal induction tolerance comprising the step of administering a pharmaceutical composition comprising an effective amount of HC gp39 (page 10) and a pharmaceutically acceptable carrier (page 14). The specification further discloses HC gp-39 induces the proliferation of PBMC in vitro obtained from some patient with rheumatoid arthritis (See page 15).

The specification further discloses HC gp-39 induces the proliferation of PBMC in vitro obtained from some patient with rheumatoid arthritis (See page 15).

With the exception of the specific full length HC gp-39, there is insufficient written description about the structure associated with function of (1) *any* HC gp-39 fragment thereof for treating (2) *any* inflammatory autoimmune disease, (3) *any* antigens other than HC gp-30 and (4)

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any method for "modulating" the reactivity of lymphocytes that are reactive to (5) *any* antigens other than HC gp-30 which are present in the same tissue as HC gp-39. Further, the specification discloses only full length HC gp-39 for treating only rheumatoid arthritis. Given the lack of a written description of *any* additional representative species of HC gp-39 fragments thereof, *any* additional representative species of antigen other than HC gp-39 and *any* additional representative species of inflammatory autoimmune disease as encompassed by the claims, one of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus. Thus, Applicant was not in possession of the claimed genus. See *University of California v. Eli Lilly and Co.* 43 USPQ2d 1398.

Applicant is directed to the Revised Interim Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

11. Claims 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation of "said autoimmune disease is rheumatoid arthritis" in claims 13-15 has no antecedent basis in base claims 10-12, respectively. The base claims 10-12 requires a method for modulating the reactivity of lymphocytes that are reactive to antigens other than HC gp-39 which are present in the same tissue as HC gp-39 comprising the step of administering a pharmaceutical composition comprising an effective amount of HC gp-39 or fragments thereof, and a pharmaceutical acceptable carrier, whereby the reactivity of said lymphocyte is modulated.

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12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

13. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

14. Claims 4-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Verheijden *et al* (Arthritis and Rheumatism 40(6): 1115-1125, June 1997, PTO 1449).

Verheijden *et al* teach a method of treating an inflammatory autoimmune disease such as autoimmune rheumatoid arthritis by intranasal administering an effective amount of HC gp-39 in buffer (pharmaceutical acceptable carrier) to a subject prior to immune response, which leads to immunologic nonresponsiveness as measured by DTH assay and suppression of bovine collagen type II induced rheumatoid arthritis upon challenge (See page 1122, column 2, Table 4 and 5, Patients and Methods, in particular). Verheijden *et al* further teach various fragments of HC gp-39 such as RSFTLASSETGVG, which is 100% identical to the claimed peptide of SEQ ID NO: 6 (See Table 6, in particular). Since the claimed HC gp-39 and fragment are the same as the reference HC gp-39 and fragment, the reference HC gp-39 and HC gp-39 fragment RSFTLASSETGVG are inherently capable of modulating the reactivity of HC gp-39 specific lymphocyte associated with rheumatoid arthritis. Thus, the reference teachings anticipate the claimed invention.

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15. Claims 4-15 are rejected under 35 U.S.C. 102(b) as being anticipated by the WO 96/13517 (May 1996, PTO 1449).

The WO 96/13517 publication teaches a method of treating an inflammatory autoimmune disease such as autoimmune rheumatoid arthritis by intranasal administering an effective amount of HC gp-39 (page 20, Table 5, in particular) or one or more peptide such as RSFTLASSETGVG, which is identical to the claimed peptide of SEQ ID NO: 6 (See reference peptide 2 on page 13, claims of WO 96/13517 publication, in particular) in PBS, which is a pharmaceutical acceptable carrier to a subject prior to immune response leading to immunologic nonresponsiveness as measured by DTH assay; the reference peptide suppresses bovine type II collagen induced rheumatoid arthritis upon challenge (See page 21, lines 14-19, claims 10, 9, and 4 of WO 96/13517 publication, in particular). Since the claimed HC gp-39 and fragment are the same as the reference HC gp-39 and fragment, the reference HC gp-39 and HC gp-39 fragment RSFTLASSETGVG are inherently capable of modulating the reactivity of HC gp-39 specific lymphocyte associated with rheumatoid arthritis. Thus, the reference teachings anticipate the claimed invention.

16. Claims 4-15 are rejected under 35 U.S.C. 102(e) as being anticipated by the US Pat No. 5,736,507 (April 1998, PTO 892).

The '507 patent teaches a method of treating an inflammatory autoimmune disease such as autoimmune rheumatoid arthritis by intranasal administering an effective amount of HC gp-39 (See entire document, Abstract, column 4, line 26-32, column 7, line 3, in particular) and one or more peptides such as RSFTLASSETGVG (See reference SEQ ID NO: 6, column 3, in sodium phosphate buffer (PBS), which is a pharmaceutical acceptable carrier, to a subject prior to immunize with bovine collagen which leads to immunologic nonresponsiveness as measured by DTH assay and suppression of bovine collagen induced rheumatoid arthritis upon challenge (See column 13, lines 6-40, Table 5 and 6, Claims of '507 patent, in particular). Since the claimed HC gp-39 and fragment are the same as the reference HC gp-39 and fragment, the reference HC gp-39 and HC gp-39 fragment RSFTLASSETGVG are inherently capable of modulating the reactivity of HC gp-39 specific lymphocyte associated with rheumatoid arthritis. Thus, the reference teachings anticipate the claimed invention.

17. No claim is allowed

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18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to "Neon" Phuong Huynh whose telephone number is (703) 308-4844. The examiner can normally be reached Monday through Friday from 9:00 am to 6:00 p.m. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.
19. Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-7401.

Phuong N. Huynh, Ph.D.

Patent Examiner

Technology Center 1600

Sept 9, 2002

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